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ABSTRACT

Results of a national study of budgetary control imposed upon 88 Ph.D. granting public universities by 49 state governments (excluding Alaska) are presented. A comparative analysis is provided of financial control practices in each state, along with an index that places these practices along a continuum. Information is included on the nature and character of state budget allocation, areas of campus flexibility and discretion, the disposition of tuition and other revenues, the nature of state regulation of positions and purchases, and the types of audits and other kinds of state controls. Using both national data provided by the National Center for Higher Education Management Systems and campus data, attention is directed to the relationship between financial and personnel control practices on the one hand, and university administrative expenditures, administrative salaries, and organizational elaborateness on the other. Based on regression analysis, there are no differences on the dependent measures between universities that enjoy a great deal of autonomy and those that are subjected to relatively heavy oversight. (SW)

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STATE FINANCIAL CONTROL PRACTICES AND PUBLIC UNIVERSITIES: RESULTS OF A NATIONAL STUDY

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Abstract

This study provides a comparative analysis of financial control practices imposed upon Ph.D. granting public universities by the states in which they are located.

Using both national data provided by NCHEMS and campus data provided by 88 universities in 49 states, the study then addresses the following question:

> Is there evidence to support the notion that high regulation and elaborate fiscal control is associated with lower administrative overhead, with cost containment, and with less organizational elaborateness? Conversely, do universities with a great deal of financial flexibility spend less on administrative operation and do they have a more streamlined administrative structure than universities which are treated like state agencies?

On the basis of the results, it is hypothesized that universities of similar size and character have administrative structures of similar size but of different character depending on their external environments.

The Problem: Background and Significance

Higher education has been suffering from the twin effects of inflation and recession since the mid-1970s. Attempts to reduce some categories of federal expenditures have been accompanied by revenue shortages in many states. Consequently state and federal funds for many universities have been accompanied by regulations aimed at cost containment. Additionally, higher education has not fully recovered from the loss of the 'public trust' which it experienced during the late sixties. Taxpayer and legislative demands for accountability and control have conspired, according to some observers, to result in an increase in state controls, especially over public institutions of higher education.(9) The growth in regulation and control has come from many sources: legislative, executive, and judicial. Multiple reviews of campus budgets, overlapping agencies for approval of purchases, and redundant studies by executive and legislative committees have, at least in some states, been commonplace. In the view of state officials, a degree of fiscal regulation is necessary for cost containment.

In the view of most university officials, however, external control reduces campus efficiency and adaptability, if not educational effectiveness. Despite the fact that controls are generated out of a spirit of frugality, there are costs as well as benefits. Most organizational behaviorists believe that an increase in monitoring activity increases operating costs, both for those doing the monitoring and for those being monitored.(7) At any rate, most administrators and faculty believe that a good deal of external oversight is both costly and unproductive.

Of the many kinds of controls imposed by the State, the post-audit of funds is perhaps the most justifiable, for it is an essential responsibility of the State to determine that the funds it has appropriated have been properly expended. But many in higher education have decried the use of elaborate line item budgets with rigid controls over the transfers of funds from one category to another. These hamper an institution from adjusting to changing circumstances and needs. A number of publications by the American Council on Education, the Carnegie Commission on Higher Education, and the Carnegie Foundation for the Advancement of Teaching have agreed that this type of expenditure control wastes a great deal of time, risks inappropriate cancellation of orders or substitutions of inferior items, and replaces the judgment of external auditors for that of deans and campus chief executives, with no apparent benefit to the state.(2, 4, 13, 19) Such impediments might be justified if tax dollars are being saved, but few studies have attempted to demonstrate that this is the case.

The literature on this topic does not include a great deal of analytical data. In fact, most literature on the topic is based on informed opinion rather than on research. While the Van Alstyne study is an exception to this generalization, it focused on the impact of federal rather than state programs.(20) However, it did reveal a sizeable increase in campus administrative costs associated with a selected set of government mandates. The 1982 study by the Carnegie Foundation surveyed decision-making practices in the states, pointed out the limitations of government regulation of higher education, and developed a defense of campus self-regulation. While the Carnegie Survey reported the locus of "effective authority" for various

academic, personnel, and administrative decisions as perceived by the institutional respondents, the report made no attempt to resolve discrepancies in perception or to supply factual data. Moreover, the study stopped short of gathering evidence which would shed light on the costliness of regulation.(4) Most research related to the topic of public accountability has utilized a case study approach and has focused on state experiences with program planning, budgeting and evaluation.(9) Recent case studies in Colorado, Kentucky, Maryland, and Wisconsin have described changes in fiscal accountability and have expressed the hope that deregulation will produce gains in efficiency.(5, 14, 15, 17)

A 1982 survey of budgetary control practices in fifteen states showed that eleven allow their universities considerable budgetary flexibility after the initial state allocation is made, and in three others, state approval of changes is almost automatic. Six of fifteen states require some form of pre-audit of university expenditures. Tuition revenue is retained and managed by the university in ten of fifteen cases, and most other revenues are retained by the campus in twelve of these states.(21) At the time of Glenny's national study in the mid-1970s, only one state in 50 required vouchers to be signed in the Governor's Office; but there have been several other examples of this in recent years.(10)

Conducting a study of five states, the New York Commission on Management and Productivity found in 1977 that the proportion of administrative staff in the State University of New York was the highest of the five.(6) It might be

noted, however, that the other four states, (California, Illinois, Michigan, and Pennsylvania) give much more financial autonomy and administrative flexibility to their state universities. This is relevant because campus financial officers in the states characterized by heavy overlay of state control in the Volkwein survey said that they would be willing to surrender 5% to 10% of their resources in order to be free of line item controls and external pre-audit of expenditures.(21) Indeed, exchange theory appears to be at work in some states where universities agree to give up resources in exchange for greater flexibility in the management of State appropriations.

The conceptual framework provided by Robert Berdahl drew a distinction between "procedural" and "substantive" autonomy.(1) Procedural controls of the kind being examined in this study interfere with good management but do not, in Berdahl's view, have much influence on academic or "substantive" matters. However, more recent writers have raised the possibility that the cumulative effects of procedural accountability and regulatory practices have shifted effective authority beyond the campus for many substantive matters as well.(4, 11) Freedom from procedural controls is not limited to universities with constitutional autonomy. Some universities with statutory status report being relatively free of constrictive state controls, and others with constitutional autonomy find themselves being treated like state agencies.(12)

Summary of State Practices

The present study addresses the question of the extent to which state regulation and control of public universities is associated with higher versus lower operating costs and administrative elaborateness. As a first step in bringing data to bear on this problem, this research gathered information about state budgeting and control practices for Ph.D.-granting public universities across the country. Information was collected from 49 of 50 states (Alaska was excluded for a variety of reasons), using both questionnaires and follow-up telephone interviews.[1] This technique enhanced the accuracy of the descriptions of state and university financial and personnel transactions. Many of the key characteristics are presented in Table 1, which summarizes selected financial and budgetary variables, and in Table 2, which summarizes selected personnel transactions. These tables reflect selected findings from both the questionnaires and telephone interviews about the nature and character of the state budget allocation, the areas of campus flexibility and discretion, the disposition of tuition and other revenues, the nature of state regulation of positions and purchases, and the types of audits and other kinds of state controls.

As shown in Table 1, the majority of states (59%) allocate funds to their state universities on an annual basis, but only 29% allocate both positions and dollars. The vast majority (35 states) allocate the money and allow the

[1] The author acknowledges with gratitude the invaluable assistance of Patricia Pragacz Looney who assisted with the construction of the questionnaire and with the telephone interviews.

TABLE 1

Description of Selected State Financial and Budgetary Control Practices

		States	
		Number	Percent
Allocation of State Operating Budget			
	Annual	29	59
	Mixed	7	14
	Biennial	13	27
		49	100
	Positions and Dollars	14	29
	Dollars only categorized by object of expenditure and/or by function	20	41
	Lump Sum	15	31
		49	101*
Campus Expenditure Flexibility after Allocation by the State			
Advance State Approval Required	Little Flexibility Difficult/Cumbersome	7	14
	Almost automatic State approval	4	8
	Great Flexibility within function or within object of expenditure	18	37
	Complete Flexibility	20	41
		49	100
State Pre-Audit of Expenditures			
	Elaborate (most purchases reviewed by two or more State agencies)	11	22
	Moderate (reviewed by one State Agency)	10	20
	None (Post-audit only)	28	57
		49	99*

* Error due to rounding

TABLE 1 (Continued)

		States	
		Number	Percent
Locus of Authority for determining tuition level for students			
	State	5	10
	Mixed/Shared	19	39
	University	25	51
		49	100
Control of Tuition Revenues			
	Tuition Revenue forwarded to the State	18	37
	Tuition Revenue retained and Managed by the University	31	63
		49	100
Control of Revenues from Research, Student Room & Board, and Other Auxiliary Services			
	These funds regarded as State income	1	2
	Some regarded as State Income; Some Not	7	14
	Most Funds retained by Campus or Multi-campus system	16	33
	All funds retained & managed by University Campus which generates them	25	51
		49	100
Disposition of Year-End Budget Balances (State Funds)			
	Returned to State Annually	25	51
	Returned to State Biennially	4	8
	Retained by University for next budget cycle	20	41
		49	100

university management to decide exactly how many positions to spend it on. Many of these states merely prescribe how much money can be spent on personal service and other than personal service.

In most states (78%), public universities have a good deal of flexibility with their operating budgets once the initial state allocation has taken place; and 57% are free from state pre-audit of expenditures.

Regarding student tuition, the state retains authority to set the amount in only five states, the university clearly has this authority in 25 states, and a climate of shared responsibility characterizes the others. Tuition revenue is kept and managed by the university in 63% of states.

Control of other revenues beyond tuition is largely a campus responsibility. Most or all revenues from sponsored research, room and board charges, and other auxiliary income are retained and managed by the University in 84% of the states.

Regarding unspent state operating funds, only 41% of states offered their public universities the incentive for good mangement which characterizes the retention of year-end balances. While 4 states require accounts to be settled only on a biennial basis, 25 states do so annually. Finance and Business Officers in these states indicate that they typically take elaborate steps to ensure that no unencumbered balances remain at the end of the fiscal year.

Table 2

Number of States Which Exert Control Over Selected University Personnel Transactions

Type of Transaction	States	
	Number	Percent
State Imposes Ceiling on Faculty Positions	17	35
State Imposes Ceiling on Other Positions	16	33
State Imposes Ceiling on Total Positions Only	6	12
State Salary Schedule for Faculty	5	10
State Salary Schedule for Other Employees	21	43
State Classification System for Faculty	4	8
State Classification System for Other Employees	25	51
State Reviews Personnel Appointments	2	4
State Issues Payroll Checks for All Employees	14	29
State Restricts Out-of-State Travel for Employees	12	25

Selected state personnel practices are summarized in Table 2. Faculty position ceilings characterize 35% of the states, and position ceilings for other categories of employees are present in 33%. Only 5 states control faculty salary schedules, but 21 states issue salary schedules for other university employees. While only 4 states have a classification system for faculty, 25 states have a classification system for other groups of employees. Very few states review university personnel appointments. University employees receive state payroll checks in only 14 cases, and only 12 states place restrictions on out-of-state travel, although a few others require cumbersome post-reporting of all travel on state funds.

In general, the data in Tables 1 and 2 suggest that elaborate financial and personnel control practices over universities exist in the minority of states. Some states give their universities more incentives to manage well than others, but most leave their universities considerable latitude, especially in regard to personnel transactions. Even in financial matters, however, most states set general budget parameters at the time of allocation but give a good deal of flexibility to campus administrators.

One cautionary note is in order. The population for this study is limited to research and doctoral institutions. There are wide variations in the structure and mission of other types of institutions, and wide variations in state control practices for differing types of campuses within the same state. For example, the states of New Jersey and Vermont have much more severe regulatory practices for their state colleges than they do for their public

universities. The discussion throughout this study, therefore, should not be generalized beyond the population of public, Ph.D.-granting universities.

The information and data from the questionnaires and telephone interviews were assembled and each State's fiscal and personnel control practices were analyzed to determine if the conceptual relationship among these variables was confirmed statistically. Reliability analysis enabled the construction of a scale, or continuum of practices ranging from states which retain a great deal of control and authority in these matters, to states within which universities have more flexibility. This procedure resulted in the construction of an index composed of sixteen items having an internal reliability (Alpha) of .89. The state-by-state comparison on the Index of Flexibility/Control is shown in Table 3.

Those states with a high score on the Flexibility/Control Index give their Ph.D.-granting state universities considerable freedom to manage their own administrative affairs. The highest ranking states in this regard are Kentucky, Vermont, Alabama, Michigan, New Hampshire, and Iowa. At the opposite extreme are states like New York, Kansas, North Carolina, Hawaii, South Dakota, Maryland, and Florida which have low scores on the index and which exert elaborate control over a wide range of financial and personnel transactions. Index scores near the midpoint characterize states like California and Oklahoma.

TABLE 3

1983 State Ranking		Index of Flexibility/Control 1980	1983
1	Kentucky	53	57
1	Vermont	57	57
3	Alabama	56	56
3	New Hampshire	56	56
5	Michigan	55	55
6	Iowa	54	54
7	Pennsylvania	53	53
8	Indiana	53	52
8	Maine	52	52
8	Minnesota	52	52
11	Idaho	49	51
11	Mississippi	52	51
11	Missouri	47	51
11	Ohio	51	51
11	Utah	51	51
16	Delaware	50	50
16	New Mexico	52	50
18	Texas	49	49
19	Georgia	48	48
19	Louisiana	48	48
21	Colorado	28	47
22	Rhode Island	46	46
23	New Jersey	45	45
23	Tennessee	46	45
25	California	44	44
25	Oklahoma	45	44
27	Nevada	44	43
27	Washington	43	43
29	Arizona	42	42
30	Arkansas	41	41
30	Nebraska	41	41
30	Wyoming	41	41
33	Oregon	41	40
33	Wisconsin	36	40
35	North Dakota	40	39
36	Illinois	38	38
36	Montana	39	38
38	Massachusetts	37	37
39	Connecticut	29	35
40	Virginia	29	29
41	South Carolina	28	27
41	West Virginia	28	27
43	Florida	26	26
43	Maryland	25	26
45	South Dakota	25	25
46	Hawaii	24	24
47	North Carolina	25	23
48	Kansas	22	22
49	New York	25	21

Index Median = 43.8

Being a part of a multi-campus system results in a slightly lower score for most campuses. The reason for this is that the scale measures flexiblity from a campus rather than a system perspective. For example, in states like North Carolina and California, the State does not impose a faculty classification system or salary schedule, but the University system does issue one. In those cases, that particular variable was given a value midway between state control and campus flexibility. A similar example occurred in states where a few categories of funds are retained and managed by the system rather than by the campus, so an intermediate score was assigned for that particular item in the 16 item flexibility scale.

In a few states, most notedly Colorado, significant changes have occurred recently in the balance between state fiscal control and university autonomy.(18) The study took this into account by asking what changes occurred between 1980 and 1983. The flexibility score for both years is shown in Table 3.

The survey instruments and telephone interviews asked campus officials whether any administrative savings would result from a reduction in State oversight and fiscal regulation. Estimated savings were then characterized as great, moderate, or little/none. The data in Table 4 reveal that 63 of the 88 universities believe that deregulation will produce moderate or great savings. And the more heavily controlled the University, the more frequently the cost reduction was characterized as "great." Of the 28 most regulated Universities (1983 Flexibility score below 40), 21 of them believe that "great" savings will result from a reduction in state control practices.

Table 4

Number of Universities which Estimate Administrative Savings Classified by Scores on Index of Flexibility/State Control

Amount of Freedom from State Control (from Table 3)	Estimated Administrative Savings if State Control Reduced: Great	Moderate	Little/None	Total No. Campuses
High (Flex Score 50+) (State Rank 1-16)	1	13	16	30
Medium (Flex Score 40-49) (State Rank 17-34)	11	12	7	30
Low (Flex Score below 40) (State Rank 35+)	21	5	2	28
	—	—	—	—
Total No. Campuses	33	30	25	88

$X^2=34.54$ $p<.001$

The Relationship Between State Practices and Campus Administration

The second step in the present study was to examine the relationship, if any, between state oversight practices and those university behaviors which they are presumably designed to control. All other things being equal, is a high degree of state regulation in these matters associated with lower costs and less administrative overhead?

It is expected that differences in the scores of university flexibility/state control, shown in Table 3, will be associated with differences in administrative expenditures, administrative salaries, administrative elaborateness, and university revenue patterns. If the regulatory and cost containment efforts of state officials in the low scoring states are justified, they should reveal themselves in:

-- lower administrative operating costs,

-- lower salaries for non-unionized administrative staff,

-- less administrative elaborateness.

Stated differently, is there evidence that administrators in universities with considerable flexibility in financial and personnel matters are abusing their freedom by spending money and hiring staff in their own offices, rather than channeling it to faculty and students? In the absence of state controls, do universities allow the "bureaucracy" to expand? Are state universities which score high on the Flexibility Index less dependent on state appropriations? To address these questions, data were assembled from three additional sources:

1. University revenue and expenditure data from NCHEMS for 1980-81 -- The data include per student education and general expenditures by function, as well as expenditures by function as a percent of the total. The data set, for example, enables the examination of absolute and relative expenditures for general administration, instruction, academic and student support services, research and public service, and other operational costs. Revenue data (both per student and as a percentage of the total) identifies the amounts derived from state approriations, tuition, endowment, grants and contracts, gifts, and other sources.

2. Since personnel costs constitute the largest proportion of an educational institution's budget, 1980 and 1982 salaries for senior administrative staff were collected from each university. To the extent that a state could attempt to contain university operating costs, that containment should be apparent in the salaries of non-unionized administrative staff. Conversely, to the extent that a university is free to "abuse" its flexibility, the inflation of administrative salaries might be one place that abuse might appear.

3. Judgements about administrative elaborateness were made from an analysis of university organization charts which were collected directly from the campuses. The number of administrative divisions headed by a Vice President, a Vice Chancellor, or their equivalent, was selected as one measure. A second measure of 1980 organizational elaborateness combined the number of vice presidential divisions with the number of organizational units headed by a dean.

If the claims of campus officials and authors on this topic are valid, one would expect universities in high scoring states to operate with less administrative cost, with more structural simplicity, and with a higher proportion of revenue from non-State sources than universities in low scoring states. Before testing this expectation, however, it is necessary to consider the variables which need to be controlled.

Data dealing with institutional expenditures and revenues, administrative salaries, and organizational elaborateness are influenced by a large number of other variables. In addition to the authors whose work is cited above, Bowen identified a number of important ones in his book (2). Some of the more prominent variables evident in the literature and used as controls in other studies are the following:

-- Constitutional versus statutory status: Some universities receive the legal protection of the State's constitution.
-- Level of employee unionization: The existence of employee unions complicates administrative life and causes many operations on the campus to become more formalized.
-- Variations in Cost of Living: Campuses in costly areas of the country must spend more to operate and to retain good staff.
-- Variations in state appropriations per student: This reflects the relative generosity of the state toward the university and produces variations among campuses in their ability to support administrative operations, salaries, and services.

-- Organizational size (FTE enrollment): Larger institutions benefit from the economies of scale, but also are more complex and support higher salaries for their managers.

-- Age of the institution: Older universities have had more time to become bureaucratized and to develop non-state revenue sources.

-- Variations in university affluence (per student revenues from endowment and private gifts): the relative wealth of an institution can have a great bearing on the amounts spent for administrative operations, for salaries, and on the ability of the organization to expand the number of operating units and services.

-- Existence of medical/agricultural/engineering schools at the university: The existence of certain types of schools at a university has a significant impact on its external funding and its administrative burdens. After reviewing the funding patterns of the universities in this sample, the existence of an engineering school was given a weighting of 1; the presence of a college of agriculture, or veterinary medicine, or oceanography facility was given a weighting of 3; and a medical/hospital complex received a 5.

-- Nature of enrollment and degrees awarded (academic/professional, graduate/undergraduate, full-time/part-time): Patterns of expenditures and revenues can be influenced by the mixture of students, faculty, and programs.

Table 5

Dependent and Control Variables Used in the Study

		Dependent Variables						
		Administrative Expenditures		Administrative Salaries			Administrative Elaborateness	
Control Variables	Means:	Per FTE Student ($542)	Percent of Total (7.6%)	1980 ($171k)	1982 ($198k)	Percent Change (17.1%)	VPs (4.4)	VPs & Deans (15.7)
Legal:								
Constitutional Status		xx	xx	xx	xx	xx	xx	xx
Economic:								
- Level of Unionization		xx	xx	xx	xx	xx	xx	xx
- Cost of Living		xx	xx	xx	xx	xx		
- State Approp. per FTE	$3,935	xx	xx	xx	xx	xx	xx	xx
Organizational:								
- Size (FTE Students)	18.1	xx	xx	xx	xx	xx	xx	xx
- Age (in years)	109	xx	xx	xx	xx	xx	xx	xx
- Affluence (endowment & gifts per student)	$ .418	xx	xx	xx	xx	xx	xx	xx
- Medical/Agric. /Engineering		xx	xx	xx	xx	xx	xx	xx
Enrollment and Degrees Awarded:								
% Graduate (vs. Undergraduate)		xx	xx	xx	xx	xx	xx	xx
% Academic (vs. Professional)		xx	xx	xx	xx	xx	xx	xx
% Part-time (vs. Full-time)		xx	xx	xx	xx	xx	xx	xx

xx = variables used as controls in the regression with the indicated dependent variable.

The sources of data for these economic and organizational characteristics included: Chronicle of Higher Education Fact Files, data from NCHEMS, government publications, and the institutions themselves. The control variables for each dependent variable are listed in Table 5.

To test the claim that freedom from State control reduces administrative expense, or conversely that such flexibility is abused by campus officials, a series of regressions were performed with the control variables held constant. Since 1980 data were available for all the dependent variables and for most of the control variables, the 1980 flexibility scores were used as the independent measure. The results are shown in Tables 6, 7, and 8.

There are two measures of administrative expenditure. Regarding per student expenditures for general administration and institutional support, a healthy 55% of the variance among campuses is accounted for by the control variables. While the possession of flexibility, or freedom from state control, is positively associated with a high level of administrative expenditures per student, Table 6 shows that an insignificant 2.1% of the variance is explained by the Flexibility Score. Similar results occur when the relative size of the administrative budget is used as a dependent measure. Over 38% of the variance in the administrative proportion of the budget among campuses is explained by the control variables; while the Index of Flexibility/Control accounts for less than 2%. In other words, there are insignificant differences on these measures among research universities in states which exert a great deal of control versus those which are relatively

Table 6

Two Measures of Administrative Expenditures Regressed on the Index of University Flexibility with Control Variables Held Constant

	Multiple R	R^2 Change	Beta	F-Value
Dependent Variables:				
1. Per student expenditures for General Administration & Institutional Support:				
Control Variables	.74	.551		8.49**
Flexibility Score	.76	.021	.17	3.72
2. Percent of Budget Expended on General Administration & Institutional Support:				
Control Variables	.62	.384		4.31**
Flexibility Score	.64	.019	.16	2.44

** $p < .01$

Table 7

Administrative Salaries in 1980 and 1982 and
The Two-year Changes in Those Salaries Regressed on
University Flexibility with Control Variables Held Constant

	Multiple R	R^2 Change	Beta	F-Value
Dependent Variables:				
1. 1980 Administrative Salaries:				
Control Variables	.86	.749		13.05 **
Flexibility Score	.87	.008	.10	1.55
2. 1982 Administrative Salaries:				
Control Variables	.81	.653		9.91 **
Flexibility Score	.81	.001	.03	.15
3. Percent Change in Administrative Salaries between 1980 & 1982:				
Control Variables	.42	.177		.92
Flexibility Score	.42	.001	-.02	.01

** $p < .01$

free from state control. After the "all other things being equal" statement is applied, flexibility, or the lack of it, accounts for very few differences in amount of administrative expenditures.

Since much of administrative expense in a university is personnel costs, the study also gathered data on the salaries of campus managers. The three positions which most campuses have in common are the President or Chancellor, the chief academic officer (Vice President/Vice Chancellor/Provost), and the chief finance and business officer. The salaries for the incumbents of these three positions in Fall of 1980 and 1982 were determined. Table 7 reveals that an enormous amount of the variance in 1980 and 1982 salaries are accounted for by the control variables: A significant 74.9% of 1980 and 65.3% of 1982 salaries are explained. The Flexibility Score accounts for less than 1% of differences in salaries in both years. By knowing an institution's size and its graduate student enrollment, one can largely predict the salaries of its top three administrators. Variations in flexibility/control appear to have no bearing on salaries of the top three campus managers.

None of the variables in the study are significantly related to the changes in salaries which took place between 1980 and 1982. Even though the control variables as a group account for only 17.7% of variance, flexibility accounts for less than a tenth of a percent, leaving more than 82% of variance unexplained. In sum, freedom from state personnel and financial oversight has a trivial relationship to university administrative salaries.

Table 8

Two Measures of Administrative Elaborateness
Regressed on University Flexibility with Control Variables Held Constant

	Multiple R	R^2 Change	Beta	F-Value
Dependent Variables:				
1. Number of Vice Presidents:				
Control Variables	.644	.415		5.45**
Flexibility Score	.649	.007	-.09	.86
2. Number of VPs and Deans:				
Control Variables	.758	.575		10.42**
Flexibility Score	.759	.001	-.04	.20

** $p < .01$

What about administrative structure? Do those campuses which are relatively unhampered by State regulation develop a more streamlined organization? The data in Table 8 suggest that University autonomy and state regulation have virtually no relationship to the number of vice presidents and deans on the 88 campuses in this study. Organizational characteristics such as size, age, and graduate enrollment account for most of these administrative differences. The index of flexibility/control explains less than 1% of the variance in the number of campus units headed by vice presidents and deans after the control variables are entered into the equation.

Finally, the study analyzed the revenue patterns of the 88 universities. Proponents of deregulation argue that universities which are relatively unhampered by government control will be more likely to generate revenue from other sources. Do public universities become less dependent on State appropriations when they are given the incentives for good management which are reflected in the flexibility score? The data in Table 9 indicate that the answer is "yes".

Controlling for the age of the institution, for the existence of medical agricultural, and engineering schools, and for the relative generosity of each state in supporting its public universities, flexibility still accounts for a significant (4.9%) of the variance in the percent of university budgets derived from state government. The relationship (Beta = -.23) is negative: the more flexibility, the less dependent on the State. Universities which are subjected to heavy state fiscal control are less likely to develop alternative

Table 9

Proportion of University Budgets from State Funds
Regressed on University Flexibility with Control Variables Held Constant

	Multiple R	R^2 Change	Beta	F-Value
Dependent Variables: Percent of Campus Revenues from State				
Control Variables	.594	.353		15.30**
Flexibility Score	.634	.049	-.23	6.77**

**p < .01

Table 10

Average Percent of University Revenues in Three Categories for Campuses Rating High, Medium, and Low in their Freedom from State Fiscal and Personnel Controls (N=88)

Amount of freedom from State Control (from Table 3)	State Appropriations	Tuition & Fees	All other sources including grants, contracts, gifts, endowment
High (Flex Score 50+) (State Rank 1-16)	46.5	20.5	33.0
Medium (Flex Score 40-49) (State Rank 17-34)	53.8	14.5	31.8
Low (Flex Score under 40) (State Rank 35+)	55.9	15.1	28.9

sources of revenue, or do so less effectively, than universities which are free of such encumbrances. This hypothesis is reinforced by the results of Table 10 which shows the percent of revenues from various sources. Universities with high flexibility scores obtain on the averge 46.5% of their revenues from State and local appropriations, whereas those subjected to heavy state oversight receive 55.9% from this source. Institutions which are relatively free of State controls raise a larger portion of their funds from tuition and fees, gifts, grants, contracts and other sources.

Conclusion

The subject of deregulation is emerging as one of the most important issues of the 1980s. Using a broad population of 88 Ph.D. granting research universities in 49 states, this study makes at least three contributions to the literature on this topic. First, it provides a comparative analysis of financial control practices over universities and develops an index which places these along a continuum. This continuum ranges from states which place many restrictions on financial and personnel transactions to states within which universities have a great deal of discretion.

Second, this research analyzes the relationship between State financial and personnel control practices on the one hand, and university administrative expenditures, administrative salaries, organizational elaborateness and revenue patterns on the other. Most campus officials believe that moderate to great reductions in administrative operations and expenditures will result from a reduction in state control practices and this attitude is strongest among those whose universities are the most heavily controlled (see Table 4).

Despite this belief, the analysis (in Tables 6-8) shows that once a number of control variables are entered into a regression analysis, there are virtually no differences in administrative expenditures, administrative salaries, nor administrative elaborateness among universities which enjoy a great deal of autonomy and those which are subjected to relatively heavy oversight. Thus, the study found no evidence that freedom from the burdens of State control encourages universities to operate more efficiently or to become more streamlined. The results raise the possibility that those arguments for flexibility which are based upon administrative efficiency are overstated.

Nor, however, is there evidence that a heavy dose of State fiscal control saves the taxpayers any money or forces universities to operate more efficiently. The cost, size, and elaborateness of administrative operations appear to be more significantly associated with factors such as the size of the university, the presence of a medical/hospital complex, the proportion of graduate enrollment, the level of unionization, and the relative generosity of State funding. While these findings may provide little comfort to campus managers, it is also possible to raise questions about the value of spending human energy and state resources on control practices which have so little impact at the campus level. Those universities which possess a great deal of fiscal flexibility apparently behave no differently, at least on these gross measures, than universities which are treated like state agencies.

The third important finding in this research arises from an examination of university revenue patterns. Universities which are less tightly controlled by their State governments also tend to be less dependent upon State appropriations (see Tables 9 and 10). Those campuses which are subjected to elaborate fiscal and personnel controls by their State officials generally earn a smaller proportion of their revenues from non-State sources, even controlling for variances in State funding, age, and expensive professional schools.

This finding argues strongly for deregulation. It suggests that freedom from the burdens of external oversight encourages universities to shift administrative resources away from coping with the State bureaucracy and into activities such as alumni development, fund raising, and sponsored research. The institutions with high flexibility scores can retain and invest their revenues, can reallocate funds between categories without State approval, can adjust their own tuition levels and employee salaries to the market, and are not hampered by external pre-audit of expenditures for supplies and equipment. The development of biennial budgets and the retention of year-end balances at these universities also encourages long-range planning and offers incentives for good fiscal management, both of which may have facilitated the development of their non-state revenues.

This research suggests that Universities of similar size and character have administrative structures of similar size but of different character, depending on their external environments. It is hypothesized that highly

regulated campuses devote more of their administrative operations to activities which interact with State government. The configuration of administrative resources for less regulated campuses, on the other hand, may be more market oriented: student recruitment, alumni relations, research grantsmanship, and the like.

Gathering descriptive information about the nature and extent of state controls over public universities is an important first step in addressing larger questions about the educational costs and benefits of controls, about their impact on academic and educational effectiveness, and about the impact on individual administrator performance and satisfaction.

The methodology used in this study does not, of course, allow us to make judgements about the qualitative differences among institutions with high and low flexibility scores. Are universities with high scores more adaptable? Are their managers able to devote more attention to educational matters? Is their workforce more satisfied and responsive? These are questions which remain to be addressed.

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